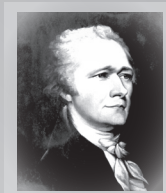




Introduction to Financial Accounting

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**ALEXANDER HAMILTON
CENTER**

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Introduction to Financial Accounting

Widely recognized as the “Father of Accounting,” Fra Luca Bartolomeo de Pacioli was a late 15th, early 16th Century mathematician, Franciscan friar, and collaborator with Leonardo da Vinci (a recently discovered manuscript of his concerning chess appears to have been illustrated by da Vinci). What we today call the double-entry accounting system was first introduced in his imposingly titled work, *Summa de arithmetica, geometria, proportioni et proportionalita*. In that book, he covered the essentials of accounting as they were then currently being used by Venetian merchants.

What double-entry accounting does is ask two questions: 1) “What did this transaction gain (or lose) for me?” and 2) “Why did it happen?” In short-hand form, “What did I get?” and “Where did I get it?” For example, it should be obvious to any business owner that the \$10,000 he just deposited to his savings account has a distinctly different nature depending upon whether that \$10,000 came from selling a service or good, was raised by selling part ownership in the company (taking on a partner), or was borrowed. In the first case, the money was earned (revenues); in the second, it was exchanged for ownership (equity); and in the third, it was borrowed (liability). Using our three example transactions as guides, it is possible to set up an equation that expresses the above situations in the form: “the sum everything I received” is equal to “the sum of everywhere I received it.”

Assets (everything I have or received) = Liabilities (my borrowings) + Equity (my ownership)

Or, without the explanatory notes,

Assets = Liabilities + Equity

Let us examine this equation. Assets are things the company owns – the things it uses in order to create income for the owners. These can be tangible in nature (desks, buildings, computers, etc.) or intangible (accounts receivable, that is, promises by customers to pay

money for services rendered or goods received). Liabilities are things that are owed. A company can borrow in the short-term or the long-term, where short-term usually means less than one year and where long-term means everything else. Equity, the owners' share of the company, is added to by investments and the net earnings (the revenues minus the expenses) of the firm, and is subtracted from by withdrawals (or in the case of a corporation, dividends). With this in mind, we can rewrite our simple equation as follows:

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

$$\text{Assets} = \text{Liabilities} + \text{Investments} - \text{Withdrawals} + \text{Revenues} - \text{Expenses}$$

Consider this equation as it might be presented in a spreadsheet:

Assets	=	Lia.	Net Investment		Net Income	
			+ Invest.	- With.	+ Rev.	- Exp

If we apply this spreadsheet approach to the three situations we first described (the \$10,000 from three different sources), we can see how they are treated differently under double-entry accounting:

	Assets	=	Lia.	Net Investment		Net Income	
				+ Invest.	- With.	+ Rev.	- Exp
1)	\$10,000	=				\$10,000	
2)	\$10,000	=		\$10,000			
3)	\$10,000	=	\$10,000				

In the first case, what did we get: \$10,000 cash (an asset). From where did we get: \$10,000 in earnings (revenue). In the second case, what did we get: again \$10,000 in cash. From where did we get it: \$10,000 in investments (equity). And in the final case, what did we get: \$10,000 cash. From where did we get it: \$10,000 in borrowing (liabilities) which will eventually have to be repaid.

All accounting transactions are essentially just variations on this theme. For each transaction we ask ourselves the two basic questions: "What did I get?" and "From where did I get it?"

Now our spreadsheet approach is fairly simplistic and, if we tried to apply it to a real-life company, we would soon find that with all of the necessary accounts under the different categories of assets, liabilities, and expenses that our spreadsheet would soon “spread” across so many “sheets” of paper as to effectively unreadable. And if we tried to apply this methodology to complex transactions, we would have a hard time knowing if we entered all of the information into the spreadsheet correctly. It was in order to address these sorts of issues that a self-checking form of the equation was used. Self-checking means that the equation adds to zero, so if we rewrite our accounting equation as:

$$\mathbf{+ Assets - Liabilities - Investments + Withdrawals - Revenues + Expenses = 0}$$

Then all we need to do is apply the proper sign (+ or –) to the different categories of accounts. As long as all the numbers add to zero, we should be alright. For example, using transaction 1) from above:

+\$10,000 (Cash is an “Asset” and assets are entered as positive (+) numbers)

- \$10,000 (Revenues have a negative (-) sign in from of them)

-0-

The transactions sum to zero so all is well with the transaction.

However, there is one problem with this approach. The words negative and positive have, well, negative and positive connotations. Thinking of the cash in my pocket as I walk into the bank as a positive makes intuitive sense. Treating a revenue that put that money there as a negative seems counter-intuitive. And the problem is compounded when we have to treat an investment (an increase in equity) as a negative and a withdrawal (a decrease in equity) as a positive.

The solution to this situation is to substitute two new words that do not carry these unfortunate negative and positive connotations – debits and credits. Any account from above that has a positive sign in front of it will be increased by a debit. Any account that has a negative sign in front of it will be increased by a credit. So now we no longer say the

transaction has to sum to zero; instead we say that the debits must equal the credits. It is exactly the same thing.

For the sake of convention, we list debits first and credits second, we put debit numbers in the left column and credit numbers in the right, and (usually) we indent the credits to make the transaction easier to read. So for our transaction 1) above, we now have:

	<u>Debits</u>	<u>Credits</u>
Cash	\$10,000	
Revenues		\$10,000

At the end of the accounting cycle (say, once a month), the bookkeeper will take all of the debits and credits and sum them up to their respective accounts much as we would do with a check register (except now we have a “check register” for each account). The final “net” balances will, among other things, tell us how much we made from sales, how much we spent on expenses, and how much cash we have in the bank. These total figures will become the basis for producing all of the accounting documents (such as the Income Statement and the Balance Sheet) that we use to manage our company.